

REMARKS

This amendment is in response to the Office Action mailed April 18, 2006.

Claims 1, 6, and 12 have been amended, Claims 2, 3, 7, 8, and 11 have been previously canceled, and Claims 1, 4 – 6, 9, 10, and 12 remain in the application for consideration.

Claim Rejections – 35 USC 112

Claims 1, 4 – 6, 9 – 10, and 12 stand rejected under 35 USC 112. These rejections are considered moot since the phrases in Claims 1 and 6 noted in (A) have been deleted, and the phrase “with a dye” has been added to Claims 1 and 12. The amendments to the claims are not deemed to add new matter. Reconsideration and withdrawal of the ‘112 rejections is therefore considered proper and is requested.

Claim Rejections – 35 USC 103

The rejection of Claims 6, 9, and 10 under 35 USC 103(a) as being unpatentable over Suzuki in view of Quiel, Jones, and Link, and the rejection of Claims 1, 4, 5, and 12 under 35 USC 103(a) as being unpatentable over Suzuki in view of Quiel, Jones, Link, further in view of Yapel, are traversed.

Claims 1 and 6 have been amended to more clearly define the present invention by adding the phrase “wherein the difference between the temperature of the backing roller and the liquid coating composition is minimized”. This amendment does not add new matter to the application and is fully supported at Spec. page 4, lines 29 – 30. Independent Claims 1 and 6 more clearly define the solution provided by the claimed invention to the problem of being able to use a grooved backing roller to relieve entrapped air in a coating station having a coating hopper, while avoiding coating non-uniformities due to temperature gradients that can be induced in the web by the grooves in the roller. This is accomplished both by the groove configuration and by minimizing the difference between the temperature of the backing roller and the liquid coating composition.

It is submitted that none of the cited references, either taken alone or in combination make nonobvious the claimed invention. Moreover, it is submitted that many of the references cannot be combined without doing violence to their teachings and/or are combined by the Examiner using impermissible hindsight in light of the disclosure of the present application. Suzuki is cited for disclosing a method and apparatus for bead coating an organic solvent based coating on a web using a coating hopper and smooth backing roller without

electrostatic assist. Because a smooth backing roll is used, the problems resulting from an air film between the roll and moving web are created. There is no disclosure or discussion in Suzuki of how to solve these problems which are solved by the claimed invention. There is no disclosure or discussion in Suzuki of how to solve the problem of possible temperature gradients in the web that can disturb the coating of the liquid composition. There is no disclosure in Suzuki of minimizing the difference between the temperature of the backing roller and the liquid coating composition. The stated object in Suzuki "is to provide a coating apparatus capable of preventing deflection of the slide hopper owing to changes in temperature"(Col. 2, lines 51-52). The solution disclosed is to use a slide hopper composed of a material with a coefficient of linear expansion of $3 \times 10^{-6}/\text{degree C.}$ or less. The problems encountered and alleged to be solved in Suzuki are not the same as in the present invention and Suzuki clearly does not negative invention in the present claims.

Quiel discloses a system for coating aqueous gelatin emulsions using a grooved backing roller and electrostatic assist. The problem solved in Quiel relates to groove lines formed in the lower liquid layers when electrostatic assist is used when coating onto a web supported by a grooved backing roller. There is no disclosure in Quiel of any problems arising due to temperature gradients. There is no disclosure in Quiel of minimizing the difference between the temperature of the backing roller and the liquid coating composition as a solution to such problems. Since there are no such problems discussed, it cannot be said that the use of higher frequency grooves in the backing roller of Quiel solves any more problems than that caused by the use of electrostatic assist. Electrostatic and thermal effects are different phenomena and the problems arising when coating aqueous coatings are different than the problems arising when coating solvent-based coatings. There is absolutely no teaching in Quiel pointing the way to a solution to the problem of temperature gradients in solvent-based coatings using a grooved backing roller. It is submitted that Quiel is not properly combined with Suzuki, since it negatives the teaching of Suzuki that no electrostatic assist is used. It is submitted that the Examiner uses impermissible hindsight in combining these two references. It is clear that the claims in the application are novel and nonobvious over either reference taken individually or in combination.

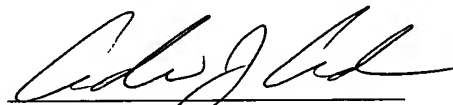
Link and Jones disclose rollers having an outer surface helically wound with a wire or filament. There is no claim in the application using helically wound wire or filament on the outer surface of the backing roller, so that these references are clearly inapplicable to the claimed invention. In addition, there is no disclosure in either reference of a solution to the problems solved by the

claimed invention. There is no disclosure in either reference of minimizing the difference between the temperature of the backing roller and liquid coating composition as a solution to temperature gradient problems arising when a grooved backup roller is used with a coating hopper. In fact, neither reference discloses a coating hopper. Link is not concerned with coating and Jones discloses a trough coating applicator 5. Clearly neither reference is properly combined with either Suzuki or Quiel since the latter two patents disclose a coating system using coating hoppers. The claims in the application are clearly novel and nonobvious over Link and Jones taken individually or in combination with Quiel and Suzuki.

There is no disclosure in Yapel of a liquid coating composition of polyvinyl butyral in methyl ethyl ketone with a dye. This reference is therefore inapposite and the claimed invention is clearly novel and nonobvious over Yapel combined with the other references.

It is submitted that the claims in the application are clearly patentable over the references cited and are in condition for allowance. Speedy allowance of this application is therefore solicited.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 33,564

Andrew J. Anderson/rgd
Rochester, NY 14650
Telephone: 585-722-9662
Facsimile: 585-477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.